Complete Summary

TITLE

Surgical site infection: percentage of deep incisional/organ space surgical site infections (SSIs) (in the donor incision site) in coronary artery bypass graft (CABG) (involving chest and donor incisions) procedures performed, during the 6 month time period.

SOURCE(S)

Australian Council on Healthcare Standards (ACHS). ACHS clinical indicator users' manual 2009. ULTIMO NSW: Australian Council on Healthcare Standards (ACHS); 2009 Jan. 853 p.

Measure Domain

PRIMARY MEASURE DOMAIN

Outcome

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the Measure Validity page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to assess the percentage of deep incisional/organ space surgical site infections (SSIs) (in the donor incision site) in coronary artery bypass graft (CABG) (involving chest and donor incisions) procedures performed, during the 6 month time period.

The rate of SSIs is expressed per 100 procedures.

RATIONALE

The National Strategy to Address Health Care Associated Infections, July 2003 suggests that between 2% to 13% of patients suffer from surgical site infections (SSIs). The attributable and human costs of SSI are therefore significant.

The risk of acquiring a SSI is dependent on a number of factors - some extrinsic e.g., the surgical procedure itself, and some intrinsic factors, such as the severity of an underlying illness. Surgical patients who contributed to a clinical indicator should be of similar risk for infection so that the rate of infection reflects the level of patient safety in like-type patient groups and infections are not contributed by a small number of patients with very different risk. The resultant recording of the clinical indicator rates for SSIs will be surgical procedure specific and should include revision procedures (e.g., revision of hip prosthesis).

Health care organisations that perform, routinely, at least 100 surgical procedures of the same type per year, may evaluate patient safety by reporting on the frequency of infection and related issues. A higher volume of procedures will produce a more statistically reliable rate. Timely investigation of higher than expected rates of infection may identify issues relating to preventative factors for documentation and corrective action. For example, errors may have occurred in administration of the correct type, dose route and timing of antimicrobial prophylaxis in surgical patients.

PRIMARY CLINICAL COMPONENT

Coronary artery bypass graft (CABG) procedure; deep incisional/organ space surgical site infection (SSI); donor incision site

DENOMINATOR DESCRIPTION

Total number of coronary artery bypass graft (CABG) procedures performed, during the 6 month time period (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

Total number of deep incisional/organ space surgical site infections (SSIs) (in the donor incision site) in coronary artery bypass graft (CABG) (involving chest and donor incisions) procedures performed, during the 6 month time period (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Use of this measure to improve performance

EVIDENCE SUPPORTING NEED FOR THE MEASURE

Australian Council on Healthcare Standards (ACHS). Australasian clinical indicator report 2001-2007. Determining the potential to improve quality of care: 9th edition. ULTIMO NSW: Australian Council on Healthcare Standards (ACHS); 2008. 611 p.

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Unspecified

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

See the "Rationale" field.

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

Unspecified

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Safety

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Coronary artery bypass graft (CABG) procedures performed, during the 6 month time period

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions
Total number of coronary artery bypass graft (CABG) procedures* performed, during the 6 month time period

*CABG procedures include procedures involving no donor graft (e.g., internal mammary artery grafts only) and are included when secondary procedures are also conducted (e.g., valve replacement with CABG). Refer to the original measure documentation for International Classification of Diseases, Tenth Revision, Australian Modification (ICD-10-AM) procedure codes.

Exclusions
Unspecified

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Institutionalization
Therapeutic Intervention

DENOMINATOR TIME WINDOW

Time window brackets index event

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions
Total number of deep incisional/organ space surgical site infections (SSIs)* (in the donor incision site) in coronary artery bypass graft (CABG) (involving chest and donor incisions) procedures performed, during the 6 month time period

*Refer to the original measure documentation for additional information on SSI and for International Classification of Diseases, Tenth Revision, Australian Modification (ICD-10-AM) procedure codes.

Note: Diagnoses of surgical wound infection that are made following readmission of a patient within 30 days of surgery are considered to be 'in-hospital' diagnoses for the purpose of this indicator and should be included in the numerator.

Exclusions
Unspecified

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Not Individual Case

OUTCOME TYPE

Adverse Outcome

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a lower score

ALLOWANCE FOR PATIENT FACTORS

Risk adjustment devised specifically for this measure/condition

DESCRIPTION OF ALLOWANCE FOR PATIENT FACTORS

There are many extrinsic and intrinsic risk factors that increase the likelihood of a surgical patient acquiring an infection, with some contributing only in presence of others. Risk factors that have been identified as being important contributors to infection include the duration of the surgical procedure, the American Society for Anesthesiologists (ASA) score and degree of contamination of the surgical site. Large data bases may be able to have the risk factors statistically adjusted so that the resulting rates reflect a patient population with similar risk for infection or calculate several rates for different levels of risk. Most healthcare facilities do not perform the same type of surgical procedure frequently enough to examine their rates of infection for several categories of risks. However, it is recommended that healthcare facilities collect the presence or absence of several risk factors for each of the surgical patients contributing to the denominator of their clinical indicator.

The frequency of these risk factors will then be used to describe the level of risk for the majority of surgical patients in each surveillance period. This documentation will determine whether risk of infection has changed. Recommended risk factors include the ASA score, the duration of procedure, emergency / unplanned and prophylaxis.

STANDARD OF COMPARISON

External comparison at a point in time
External comparison of time trends
Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

Indicator area 1: infection surveillance CI 1.8.

MEASURE COLLECTION

Australian Council on Healthcare Standards (ACHS) Equip Clinical Indicators

MEASURE SET NAME

Infection Control Indicators

DEVELOPER

Australian Council on Healthcare Standards

FUNDING SOURCE(S)

Funding is direct Australian Council on Healthcare Standards (ACHS) funding sourced through our membership. ACHS does not receive external funding from the government or other sources.

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

Our terms of reference dictate the composition of the working parties that develop our indicators and include the following:

- Two Clinicians -- nominated by the relevant specialty college/association/society, one nominated to be the chair of the working party
- Private Hospital Representative -- nominated by the Australian Private Hospital Association
- Consumer Representative -- nominated by the Consumer Health Forum of Australia
- Coding Representative -- nominated by the National Centre for Clinical classification on Health
- Quality Health New Zealand, nominated by QHNZ (if applicable)
- Epidemiological/Clinical Research Representative, Director of Health Services Research Group, University of Newcastle
- Australian Council on Healthcare Standards (ACHS) Representatives -- Clinical Director, Coordinator, Administrative Assistant
- Other Expert Stakeholders, as required

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

None

ADAPTATION

The Australian Council on Healthcare Standards (ACHS) Infection Control Indicators are in accordance with the standard set of definitions published by the Australian Council for Safety and Quality in Health Care's, Health Care Associated Infections Advisory Committee (HCAIAC) and Surveillance Working Party.

The definitions were originally developed by the National Advisory Board of the Australian Infection Control Association based on the National Nosocomial Infections Surveillance Systems, the Nosocomial Infection National Surveillance System and from the Public Health Laboratory Service of the UK (PHLS).

In response to feedback from participating organisations and in keeping with the above definitions, the indicators published as version 3 have been modified to either improve the understanding of the indicator definitions or improve collection methodologies.

RELEASE DATE

2002 Jan

REVISION DATE

2009 Jan

MEASURE STATUS

This is the current release of the measure.

This measure updates a previous version: Australian Council on Healthcare Standards (ACHS). ACHS clinical indicator users' manual 2008. ULTIMO NSW: Australian Council on Healthcare Standards (ACHS); 2007 Dec. 776 p.

SOURCE(S)

Australian Council on Healthcare Standards (ACHS). ACHS clinical indicator users' manual 2009. ULTIMO NSW: Australian Council on Healthcare Standards (ACHS); 2009 Jan. 853 p.

MEASURE AVAILABILITY

The individual measure, "Indicator Area 1: Infection Surveillance CI 1.8," is published in "ACHS Clinical Indicator Users' Manual 2009."

For more information contact, the Australian Council on Healthcare Standards (ACHS), 5 Macarthur Street, ULTIMO NSW 2007; Phone: (02) 9281 9955; Fax: (02) 9211 9633; E-mail: pos@achs.org.au; Web site: www.achs.org.au.

COMPANION DOCUMENTS

The following is available:

- Australian Council on Healthcare Standards (ACHS). Australasian clinical indicator report 2001-2007. Determining the potential to improve quality of care: 9th edition. ULTIMO NSW: Australian Council on Healthcare Standards (ACHS); 2008. 611 p. This document is available in Portable Document Format (PDF) from the Australian Council on Healthcare Standards (ACHS) Web site.

NQMC STATUS

This NQMC summary was completed by ECRI Institute on September 19, 2008. This NQMC summary was updated by ECRI Institute on September 9, 2009.

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